

comprising the steps of:

projecting a pattern of imagable electromagnetic radiation with at least one projector;

moving the object relative to the at least one projector at a substantially constant velocity at the vision station so as to scan the projected pattern of electromagnetic radiation across a surface of the object to generate an imagable electromagnetic radiation signal;

receiving the imagable electromagnetic radiation signal from the surface of the object with a detector having a plurality of separate detector elements which are substantially uniformly spaced;

maintaining the at least one projector and the detector in a substantially fixed relation to each other;

measuring an amount of radiant energy in the received electromagnetic radiation signal with the detector wherein each of the detector elements produce [images] an image having a different [phases] phase of the same scanned surface based on the measurement; and

computing phase values and amplitude values for the different phases from the multiple images.

Claim 14 (Amended) A system for high speed, scanning phase measuring of an object at a vision station to develop physical information associated with the object, the system including:

at least one projector for projecting a pattern of imagable electromagnetic radiation;

means for moving the object relative to the at least one projector at the vision station at a substantially constant velocity so as to scan the projected pattern of imagable electromagnetic radiation across a surface of the object to generate an imagable electromagnetic radiation signal;

a detector for receiving the imagable electromagnetic radiation signal from the surface of the object and having a plurality of separate detector elements which are substantially